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Dr. Samuel Kneeland was elected Recording Secretary, in place of Dr. B. A. Gould, who resigned.

Three hundred and seventy-second meeting.

December 7, 1852. — MONTHLY MEETING.

The PRESIDENT in the chair.

Professor Winlock, of Kentucky, made a verbal report on errors he had discovered in Bradley's and Bessel's Observations on the sun, illustrated by diagrams.

Professor Peirce observed that this was a very remarkable application of the method of least squares, leading to the discovery of such a small difference between the printed observations and the true result. He gave other examples of the detection of errors by the application of this method, showing that even errors are regulated by laws. He remarked, that, with all our accuracy, the diameter of the sun is not yet known; the best way to ascertain this is by an eclipse, but even this is open to doubts.

Professor Peirce alluded to several errors attributed to him in some foreign journals; — the idea that the orbit of the comet of 1689 was the same as that of 1843 had been erroneously attributed to him. He believed also that astronomers will yet acknowledge that there are two solutions to the perturbing actions of Neptune on Uranus.

Dr. J. Wyman offered some remarks on the internal structure of the cranium of the mastodon. He had compared the foramina through which the nerves escape from the cranial cavity with those in the skull of the elephant; those transmitting the trigeminus and facial nerves were of similar proportions in the two, and tended to show that the mastodon, as well as the elephant, was provided with a trunk, the large size of the nerves indicating a corresponding development of muscular fibre and of sensitive surface in the face.

The form of the cranial cavity, which has not been described, corresponded with the extraordinary type met with in the elephant, having similarly narrow and contracted anterior lobes, and having the transverse diameter of the encephalon exceeding the longitudinal. Besides in elephants and mastodons, this last condition exists only in Cetaceans. Dr. Wyman remarked upon the transition from the genus mastodon to that of the elephant, as shown by the teeth in the different species discovered by Falconer and Coutley in Asia, and upon the similarity in the forms of the brains, as showing a much closer affinity between the two genera than had generally been supposed to exist.

Three hundred and seventy-third meeting.

January 4, 1853. — MONTHLY MEETING.

The PRESIDENT in the chair.

Dr. Walter Channing made some remarks on meteorological phenomena noticed by him in a recent voyage to Europe; among others, on the remarkable brilliancy of the nights in Russia compared with those of more southern latitudes.

Dr. W. F. Channing gave an account of the experiments on the velocity of sound, recently made in this vicinity by Captain Wilkes. The discharge of a cannon was made to break the circuit in a telegraph wire, thus marking exactly the time of discharge and the observance of the sound, and avoiding the personal errors of watching for the flash and recording the exact time. He described an instrument of his invention for recording the first vibration of air from the cannon's discharge. The results are not yet fully compared, so as to show the differences arising from the dryness or dampness of the air, change of elevation, intervening hills, &c.

The Treasurer announced a donation from the Hon. Jonathan Phillips, of one thousand dollars, to the general fund of the Academy.

Whereupon, it was unanimously

"*Voted*, That the thanks of the Academy be presented to the Hon. Jonathan Phillips, for the generous contribution of one thousand dollars to its funds, for the purpose of promoting the progress of science."